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## Notes on the Bionomics of *Ataxia hubbardi* Fisher in Illinois (Coleop.: Cerambycidae).\*

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*Ataxia hubbardi* seems to have reached Illinois but recently. Through correspondence, the United States National Museum informs me this species had not previously been found as far north and east as Illinois. Moreover the Illinois Natural History Survey has no collection records of its occurrence in this State. Because Fisher (1924) lists its range as Arizona, Texas, Oklahoma, Nebraska, and Kansas, and I found it only in plants growing along an east-west railroad, it quite probably came here via railroad traffic from the west.

In the locality of Urbana, Illinois, the larvae and pupae develop in the petioles of the large basal leaves of Prairie Dock, *Silphium terebinthinaceum* Jacq. The first adult was found within the petiole of a leaf on June 4, 1940. Although fully developed in hardness and color it had not started to make an exit hole. Another section of petiole was found on the same day in which a circular hole had been gnawed, and through which the adult had apparently escaped. Later many more such stems were found.

Near the point where the leaf blade joins the petiole of *Silphium*, small circular holes about 1.5 mm. in diameter were found. These holes appeared to be too regular and too small to have been made by the adult beetle. It would seem, therefore, that the eggs were deposited upon, rather than in the host stalk, and the larvae upon hatching bored into the petiole. This is the procedure of the closely related species *Ataxia crypta* (Say) (Morgan 1907).

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Assuming the eggs are deposited on the stems, the larvae, upon hatching, bore into them just below the epidermis and turning towards the base eat downward for an inch or more. They then turn back and eat upwards about the same distance past their entrance holes. The larvae traverse back and forth several times over a period of several days or possibly several weeks. The epidermis of the petioles turns black in these regions. As they become larger the larvae leave the sub-epidermal region and burrow into the pith at the center of the stalk. Here they bore up the mid-rib of the leaf to a point near its tip, a distance of about twelve to fifteen inches. After turning around they come down the mid-rib to a point several inches below the base of the leaf blade. The passage in the mid-rib is filled with frass.

At various distances below the leaf blade the mature larvae girdle the petioles from within. The fallen leaves may be noted lying on the ground about the third week in September. Although all the leaves of this Rosin weed die in the fall and are strewn about over the ground, it is very easy to recognize those which are infested. The factor by which they can be recognized at a distance is the break in the mid-rib at about the middle of the leaf blade. Although all the leaves have a tendency to curl, only the infested stalks break at this point. This break does not appear until after the leaves have begun to dry out. The second recognition mark is the presence of the small circular hole near the base of the leaf blade through which the larva entered the stalk. The smooth girdled end of the stalk, plugged with frass, is a third recognition mark. Although the larvae are not always found in this section of the stalk above the girdle, which bears the blade, the basal portion of the petiole can usually be found within a radius of a few inches from the leaf blade. Rarely was more than one larva found within a stalk and never more than two. When two were present, one was in the section of petiole above the girdle while the other was in the lower section. The girdled end is plugged up with frass so that a closed chamber results in which the larvae overwinter.

Several pupae were found on May 28. These emerged as adults on June 8, indicating that the length of the pupal stage is at least twelve days, perhaps nearer to fourteen. The last pupa was found on June 19. This was the only individual found in the stem of Indian Hemp, *Apocynum cannabinum* L.

#### SUMMARY.

1. There is one generation a year in the locality of Urbana, Illinois.

2. The newly transformed adults remain two or three days within the stalks of the basal leaves of *Silphium terebinthinaceum* before emerging, and began to appear during the first week in June.

3. The egg is apparently laid upon the outer surface of the petioles.

4. Upon hatching the larvae presumably bore into the pith, where they feed at first just under the epidermis, then in the pith the entire length of the stalk.

5. The mature larvae form the overwintering stage in this area of the insect's distribution.

6. Pupation begins during the last week in May and the pupal stage has a duration of about fourteen days.

#### BIBLIOGRAPHY.

FISHER, W. S. 1924. A New Species of *Ataxia* from the United States. Canadian Ent., Vol. 56, No. 10, pp. 253-254.

MORGAN, A. C. 1907. The Cotton Stalk Borer (*Ataxia crypta* Say). U. S. Dept. of Agr. Division of Ent. Bull., 63, Part 7, pp. 63-66.

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The Insect Collection of Thaddeus W. Harris (1795-1856)

Was transferred (as a deposit) from the New England Museum of Natural History to the Museum of Comparative Zoology in April, 1941, and placed in the Leconte-Fall Room, together with Harris's notebook and certain M. S. lists and data. This is probably the oldest existing general collection of North American insects. Many specimens are broken or damaged by old Dermestid work (some Orthoptera were completely destroyed long ago), but the bulk of the material is in fair condition considering its age. There was no damage during the transfer to the M. C. Z. The collection contains types of probably at least 200 insects, including numerous Coleoptera, described by Say, Harris, and others.—P. J. DARLINGTON, JR. in Annual Rept. of the Director of the M. C. Z. at Harvard College for 1940-41, pp. 16-17. 1941.